

Annual Drinking Water Quality Report **Town of Chincoteague, Inc.**

This report for calendar year 2009 is designed to inform you about your drinking water quality. Our goal is to provide you with a safe and dependable supply of drinking water and we want you to understand the efforts we make to protect your water supply. The quality of your drinking water must meet state and federal requirements administered by the Virginia Department of Health (VDH). For more information about your water or if you have questions concerning this report, you may call Robert Ritter, who is the Town Manager at (757) 336-6519 or A. J. Bowden of the Public Works Department at (757) 336-3366. Additionally, the Town's Public Works Committee meets the first Tuesday of each month at 5:00 p.m. Please feel free to attend these meetings at 6150 Community Drive.

Generally, the sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over land and through the ground, it dissolves naturally occurring minerals and in some cases, radioactive material and can pick-up substances resulting from the presence of animals and humans. Substances (referred to as contaminants) in source water may come from septic systems, discharges from domestic or industrial wastewater treatment facilities, agricultural and farming activities, urban storm water runoff and residential uses. Water from surface sources is treated to make it drinkable while groundwater may or may not have any treatment. In the Town's case, the groundwater is treated.

Specifically, the source of the Town's water is from five shallow wells and four deep wells located next to Route 175 in an area of the mainland adjacent to NASA's Wallops Flight Facility in the vicinity of the visitor center. The shallow wells range from 50 feet to 100 feet in depth and draw from the Columbia Aquifer while the deep wells range from 200 feet to 250 feet in depth and draw from the Upper Yorktown Aquifer. After the water is withdrawn from the wells, it is disinfected through chlorination to protect against microbial contaminants and transported approximately 5 miles to filtration and storage areas on the Island. On the Island, the water is filtered to remove iron. Ortho-phosphate is added to reduce the corrosivity. The water is then again disinfected and distributed throughout the Town's water system.

The VDH conducted a Source Water Assessment of the Town's Waterworks in 2001. Wells 3A, 3B, 3C and 5 were determined to be of high susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program. Wells 4, 6, 7A, 7B and 7C were determined to be of low susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program. The assessment report consists of maps showing the Source Water Assessment area, an inventory of known Land Use Activities and Potential Conduits to Groundwater utilized at Land Use Activity Sites in Zone Susceptibility Explanation Chart and Definition of Key Terms. The report is available by contacting Mr. Spurlock or Mr. Bowden at 757-336-3366 or 6150 Community Drive.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk of infections. These people should seek advice from their health care providers about drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

In order to ensure that tap water is safe to drink, the EPA and VDH prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. We treat and monitor our water for contaminants according to these regulations. The table below includes the results of monitoring for the period of 1 January to 31 December 2009. In the table and elsewhere in this report you will find many terms and abbreviations you might not be familiar with. The following definitions are provided to help you better understand these terms:

Picocuries per liter (pCi/L) – picocuries per liter is a measure of radioactivity in water.

Parts per billion (ppb) or Micrograms per liter – one ppb would be comparable to one minute in 2000 years.

Parts per million (ppm) or Milligrams per liter (mg/l) – one ppm would be comparable to one minute in 2 years.

Action Level (AL) – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level (MCL) – the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) – the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) – the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) – the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Total Trihalomethanes (TTHMs) - compounds formed during the chlorination process (part of disinfection).

Total Haloacetic Acids (THAA5) – compounds formed during the chlorination process (part of disinfection)

CONTAMINANT (UNIT)	MCLG	MCL OR AL	LEVEL FOUND	SAMPLE DATE	TYPICAL SOURCE OF CONTAMINATION
Gross Beta (pCi/L)	0	50 **	15.3	6/6/05	Decay of natural & man-made deposits.
Gross Alpha (pCi/L)	0	15	0.4	6/6/05	Decay of natural & man-made deposits.
Radium-228 (pCi/L)	0	5	0.1	6/6/05	Decay of natural & man-made deposits.
Chlorine (mg/L)	4	4	1.1 (ND – 1.8)	2009	Added to deactivate micro-organisms & as an oxidant for iron removal.
Arsenic (ppb)	n/a	10***	7	4/08/09	Erosion of natural deposits; runoff from orchards; runoff from glass & electronics production wastes.
Nitrate + Nitrite (ppm)	10	10	0.11	2009	Fertilizer use runoff, septic tank leaching, sewage, erosion of natural deposits.
Copper * (mg/L)	1.3	1.3	0.451 (<.20 UG/1 – .69)	9/10/09	Corrosion of household and plumbing systems; erosion of natural deposits.
Lead* (ppb)	15	15	2 (<ND – 2.5)	9/10/09	Corrosion of household plumbing systems; erosion of natural deposits.
TTHM (ppb)	n/a	80	2.1 (ND – 1.4)	6/18/08	Formed during the process of disinfection by chlorination
HAA5 (ppb)	n/a	60	2 (ND – 2)	6/18/08	Formed during the process of disinfection by chlorination

There were no positive bacteriological samples in 2009.

***About Lead & Copper:** The Town sampled 20 household systems in the community. The levels reported above represent the 90th percentile values of the home systems sampled and tested. The range of values is also given of the 20 homes sampled and tested; none exceeded the action level (AL) for lead or for copper. The Town adds ortho phosphate to its distribution system to help coat home plumbing and reduce the corrosion of lead and copper in household systems. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Town is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 15 to 30 seconds or until it becomes cold or reaches a steady temperature before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at <http://www.epa.gov/safewater/lead>.

****The MCL for beta particles** is 4 mrem/year, but EPA considers 50pCi/L to be the level of concern.

*****The MCL for Arsenic** was reduced from 50 ppb to 10 ppb on 1/23/06. While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Stringent MCLs and ALs are set by the EPA. In developing the standards, EPA assumes that the average adult drinks 2 liters of water each day through a 70-year life span. EPA generally sets levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-a-million chance of having a described health effect for other contaminants.

Some interesting facts about your waterworks system appear below:

<u>Town's FY10 Waterworks Budget</u>			
<u>Revenues</u>		<u>Expenditures</u>	
Water Rent	875,000	Salaries/Benefits	282,100
Extensions/Connections	26,939	Operations	247,025
Availability Fees	34,371	Bonds/Interest	367,545
Interest	<u>360</u>	Equipment	30,000
	936,670	System Improvements	<u>10,000</u>
			936,670

Recent unbudgeted system improvements have been:

- replacement of ground storage tank's roof = \$240,000 in 2007,
- 12" lining of 16" water main from the Mainland to Black Narrows = \$2,540,284 in 2006,
- directional drilling of new 16" water main across Chincoteague Channel = \$1,116,598 in 2005.

Recent budgeted system improvements have been:

- Replacement of water services on Smith Street, Sharpley Street and Maddox Boulevard.